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JULY 13.

The President, Dr. **RUSCHENBERGER**, in the chair.

Eighteen members present.

A paper entitled "Fasti Ornithologiæ Redivivi, No. 1, Bartram's Travels," by Elliott Coues, M.D., was presented for publication.

Pelvis of Hadrosaurus.—Prof. B. **WATERHOUSE HAWKINS** referred to his remarks of last summer regarding the position of the so-called clavicles of *Hadrosaurus*. Having drawn a figure of the skeleton, he explained the impossibility of disposing of those bones in the position of clavicles. A comparison of the skeleton of *Hadrosaurus* with that of the *Ostrich* was made, and the conclusion drawn that the ischiatic position assigned to the bones in question in the restoration made for the Smithsonian Institution was unwarranted.

Prof. **COPE** stated that he had lately obtained a metatarsal bone of *Lælaps* which confirmed the views of Prof. Hawkins as expressed in his restoration of that animal made during his engagement at the Central Park, New York.

JULY 20.

The President, Dr. **RUSCHENBERGER**, in the chair.

Nineteen members present.

Papers entitled "Report on the Reptiles brought by Prof. James Orton from the Middle and Upper Amazon and Western Peru," by Edw. D. Cope; and "Note on the Ichthyology of Lake Titicaca," by Edw. D. Cope, were presented for publication.

Influence of Nutrition on Form.—Mr. T. **MEEHAN** remarked that the influence which nutrition, in its various phases, had on the forms and characters of plants was an interesting study; and in this connection he had placed on record in the Proceedings of the Academy, that two species of *Euphorbia*, usually prostrate, assumed an erect growth when their nutrition was interfered with, by an *Æcidium*—a small fungoid parasite. He had now to offer a similar fact in connection with the common Purslane—*Portulaca oleracea*—one of the most prostrate of all procumbent plants, which, under similar circumstances, also became erect.

The Drosera as an Insect Catcher.—Mr. THOMAS MEEHAN referred to a discussion before the Academy recently in which the question occurred, whether those plants which had contrivances for catching insects made any nutritive use of the insects so caught. It had been suggested that experiments made in England with plants under bell-glasses and free from insects, were quite as healthy as those which had had insects regularly applied to them, and this was argued to prove that the plants were not actually insect eaters.

In a recent botanical trip to New Jersey, he had found in Atlantic County, about five miles from Hammonton, three species of Drosera; *D. filiformis*, *D. longifolia*, and *D. rotundifolia*, all growing near each other in immense quantity. All of these species had insects of numerous kinds attached to them. Large numbers of plants had no insects. The species with the largest number of plants having insects on them, were in the order as above named. The insects are held by the pin-like glandular hairs, which seem to lean in from all sides towards the insect—as if, from its struggles to escape, drawn in—and thus securely holding it. The remains of the insects which have been caught, seem to continue attached to the plant for a long time; and thus can be seen which plant has had the benefit of insect food—if food it be. No difference, however, in health or vigor could be traced between those which had had insects and those which had had none. Mr. Meehan did not, however, think that these observations, or experiments founded on anything they suggested, would settle the question of nutrition. Among ourselves there were discussions as to whether people were healthier as vegetarians or flesh eaters, while figures showed little difference, if any, either way. A plant might feed on insects when it could get them, and yet be no healthier than those which had to get along as other plants did. It was necessary, however, to the theory advanced by those who believed the insect catching were really insect eating plants, to show that some superior advantages favored the insect catchers. It was believed that the power to catch insects was a developed one—a power not possessed by their predecessors—and developed according to the law of natural selection. Unless insect catching can be shown to be an especial advantage, there was nothing to select. At any rate, his observations on the Drosera only showed that all the plants, whether with insects or with none, were equally healthy.

Some observers have recorded that there is a motion of the leaves as well as of the glandular hairs in the effort to catch insects; only one fact was noticed bearing on this question, one leaf of a Drosera filiformis had coiled over towards its upper surface from the apex, and held an insect in its folds.

On the Indian Tribes of Costa Rica.—Mr. GABB called attention to the recently published work of Bancroft on the Indian tribes of the Pacific slope, and stated that, while he did not profess to criticize it in other respects, he felt bound to protest against all of that portion relating to the Indians of Costa Rica.

Heretofore, nothing reliable had been published on the subject, because nothing was known with certainty. The scanty literature of the subject has been based rather on untrustworthy reports than on personal observations. Mr. G. has recently completed a very detailed exploration of the region known under the political name of Talamanca in Costa Rica, and has devoted much time and care to the subject of its Indianology. The map of Bancroft is worse than useless. He places the "Talamancas" in the northeast portion of the Republic, the "Blancos" in the centre, exactly where the 150,000 of the Spanish inhabitants live, "Orotiñans" along the coast of the Gulf of Nicoya, the "Valiertes" and "Ramas" in Talamanca, and the "Guetares" to the south of the "Orotiñans." The "Guatusos" are the only tribe that is placed with even approximate correctness. The "Valientes" live in the Province of Chiriqui, State of Panama, the "Ramas" belong in Nicaragua at about the spot where the name is repeated. The "Blancos," so called from Pico Blanco, a mountain in their country (Talamanca), consist of three tribes scattered over southeastern Costa Rica. The two tribes placed on the Pacific coast have no existence, but south of where they are located by Mr. Bancroft, there are two semi-civilized tribes, the Terrabas and the Borucas (or Brunkas).

The Guatusos are implacably hostile to civilized men, and are nearly unknown. Popular report makes them partially white, and they have been said to be descended from English buccaneers. It is not impossible that they may have a slight admixture of Spanish blood, derived from the inhabitants of the town of Esparza, who were once driven from their homes by the English. Even this, however, is doubtful, and the most reliable and cautious observers who have penetrated the country or who have seen the few captives, taken out from time to time, agree that they are pure Indians in every respect.

The Blancos, as they are called by the Spaniards, belong to three distinct tribes, divided both geographically and by their languages. They are the Bri-bris, inhabiting nearly all of the watershed of the Tiliri or Sicsola River, the Cabecars, living on the Coen River, and scattered over the region from that point to the frontiers of civilization in Costa Rica, and the Tiribis, living to the southeast of the Bri-bris, on the Tilorio River. The west coast Indians are the Terrabas, an offshoot of the Tiribis, and who still retain a tradition of their emigration from the old home of their tribe to the more hospitable plains of Terraba, and the Borucas, who occupy a simple village, and who seem to be the remains of the original population of this region. These west coast Indians are partially civilized, live under the municipal and ecclesiastical control of a missionary priest, and nearly all speak Spanish. Their languages are being rapidly corrupted by Spanish, and are practically undergoing the process of replacement. Some of the Borucas have already forgotton how to count in their own language, and use only the Spanish numerals.

On the other hand, the people of the Atlantic slope, protected by their nearly impenetrable country, and their active hostility to the Spanish race, have retained their languages in much greater purity, and their customs almost unaltered from the times of their ancestors. Only since the beginning of Mr. Gabb's exploration has the government of Costa Rica obtained a political foothold in the country. The hostility against the Spaniards does not extend to the other white races. English speaking people have been trading with them for about half a century, have always treated them fairly, and are respected. A red beard is the best passport in the country. The most influential man among them is Mr. John Lyon, a Baltimorean, who has been living among them as a trader for the last eighteen years, and is more respected and looked up to than the native chiefs. He is the only white man who has ever established himself in the country, and the exploration owes its success to his active co-operation and sympathy.

The physical characters of the Indians are a short stature, rather thick set. The average height of the men is about 5 feet 4 inches, that of the women a couple of inches less. Tall men are extremely rare, and there is probably not a person in the country over 5 feet 10 inches in height. The hair of the head is coarse, black, and abundant, while it is almost entirely absent on all other parts of the person. Men and women alike are accustomed to carrying heavy loads resting on the back and suspended from the forehead by a strip of bark cloth. In this way they carry with ease from 50 to 75 pounds an entire day, and some have been known to carry 5 arrobas (125 pounds) ten or a dozen miles in a day over rough mountain trails.

Their dress is very simple. The men wear only a breech cloth, a strip of cloth, a foot wide, and seven or eight feet long, wound around the loins. The women wear a petticoat made of a piece of cloth wound round the hips, reaching from the waist to the knees and suspended by a belt. Some of the latter wear an extremely short chemise or jacket, more for ornament than for any use that it serves in covering the person. The men, especially those who have been out of their country, are gradually adopting trowsers or shirts, although the two garments rarely go together. The women braid their hair, parting it in the middle, and exhibit considerable taste in its arrangement. Formerly, the men wore their hair very long, gathered into a queue, wound tightly with cloth, and rolled into a flat mass at the back of the head. Others disposed of it in two braids hanging down the back like the Spanish American women. Now, however, most of them wear it cut rather short.

The men often decorate their heads with a tiara of feathers, and both sexes paint their faces in simple patterns on the cheeks, and wear necklaces. Of the latter, the women wear glass beads, while the men use teeth of animals, principally the canine teeth of tigers.

Mr. Gabb stated that he had submitted to the American Philosophical Society a detailed report of his observations of the Costa Rica Indians, with vocabularies of their several languages.

Compressed Peat.—Mr. ROBERTS called attention to a piece of artificially compressed New Jersey peat, prepared at the People's Iron Works, Philadelphia, by Mr. John Cooper.

The peat in a dry brown powder was fed into a cylinder and subjected to pressure by means of a drop hammer weighing 1500 pounds, falling a distance of 11 inches. The result was a compact mass of a black color, having a conchoidal fracture, and the lustre of bituminous coal.

JULY 27.

The President, Dr. RUSCHENBERGER, in the chair.

Thirteen members present.

The following resolution was unanimously adopted:—

Resolved, That the Academy of Natural Sciences of Philadelphia cordially invite the American Association for the Advancement of Science to meet in Philadelphia in 1876.

Geo. Milliken, Jas. B. England, and Howard A. Kelly were elected members.

Papers entitled "Report on the Reptiles brought by Prof. James Orton from the Middle and Upper Amazon and Western Peru," by E. D. Cope; and "Note on the Icthyology of Lake Titicaca," by E. D. Cope, were ordered to be published in the Journal.

The Committee to which they had been referred recommended the following papers to be published.